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July 13, 1990

VIA FEDERAL EXPRESS

Mr. Paul Takacs  
Remedial Project Manager  
Federal Sites Management Unit  
Remedial Sites Management Section  
Division of Land Pollution Control  
Illinois Environmental Protection Agency  
200 Churchill Road  
Springfield, Illinois 62706

Dear Mr. Takacs:

Attached is a copy of the PreSER Scoping Documents, which Andrew Perellis referenced in his July 11, 1990 letter.

If you have any questions, please call me at (414) 359-1144.

Sincerely,

WARZYN ENGINEERING INC.

*Michael J. Radcliffe/mf*  
Michael J. Radcliffe  
Project Manager

MJR/sam/MJR  
[sam-607-AA9]  
12749.03

Attachment: As Stated

cc: Mr. William C. Child  
Paul R. Jagiello, Esq.  
Joseph J. Annunzio, Esq.  
Mary Fulghum, Esq.  
Mr. Terry Ayers  
Ms. Melinda J. Gould  
Mr. Howard Chinn  
Andrew Perellis, Esq.  
Mr. Dennis Hays

THE PERFECT BALANCE  
BETWEEN TECHNOLOGY  
AND CREATIVITY.

MILWAUKEE  
11925 WEST LAKE PARK DRIVE  
SUITE 200  
MILWAUKEE, WI 53224  
(414) 359-1144  
FAX (414) 359-1145





**PRE-SITE EVALUATION REPORT  
SCOPING DOCUMENT  
GROUNDWATER CONTAMINATION INVESTIGATIVE ACTIVITIES  
BELOIT CORPORATION, BLACKHAWK FACILITY  
ROCKTON, ILLINOIS**

**INTRODUCTION**

The Illinois Environmental Protection Agency (IEPA) has asked Beloit Corporation to initiate investigative activities to further characterize the volatile organic compound (VOC) contamination near its Blackhawk Facility in Rockton, Illinois. The Site Features Map (Drawing 12749-B1) shows the location of the Blackhawk Facility and the immediately surrounding area. The purpose of this scoping document is to briefly discuss the major issues associated with the groundwater contamination and the work tasks required to address these problems before preparing a Site Evaluation Report (SER). The proposed investigative activities were developed to encompass specific IEPA concerns. This document is intended to be used for preliminary planning purposes; a more detailed work plan can be developed on the basis of discussions stimulated by this general proposal.

**PROJECT BACKGROUND**

The Illinois Environmental Protection Agency (IEPA) conducted a study in the Rockton, Illinois area in which they found volatile organic compounds (VOCs) in groundwater samples. The IEPA stated in a draft report (1986) that the Beloit Corporation's Blackhawk Facility is a likely source of these VOCs. Warzyn Engineering Inc. (Warzyn) has also performed a series of investigations on behalf of the Beloit Corporation. These investigations provide an initial characterization of the geology, hydrogeology, and groundwater quality at and around the Blackhawk Facility and identification of potential on and off-site source areas. Phase III in this series of investigations concluded in July 1989 when the results were presented to the IEPA.

Both the IEPA and Beloit Corporation have recognized that the earlier data collection activities have not fully characterized the nature of the VOC contamination. Specifically, no sources have been unambiguously identified either on or off-site that can be linked to the VOC contamination. In addition, existing data do not support the hypothesis that contaminants could have migrated from the possible on-site source area(s) to the Watts Avenue contaminated private wells located to the east of the Blackhawk plant. However, the IEPA has maintained that "preferential pathways" within the unconsolidated materials may exist which have resulted in contaminant migration from the Blackhawk Plant to the affected wells. The activities described in this scoping document are designed to synthesize the previous information and to provide a plan for developing additional information that will supplement the existing data.

### **PROJECT OBJECTIVES/WORK TASKS**

Outlined below are specific project objectives followed by a brief summary of work tasks needed for accomplishing the objectives:

- Summarize existing information on the groundwater contamination in the vicinity of the Blackhawk Facility.

A site evaluation report (SER) will be prepared in which the results and conclusions of previous data collection activities (by both the IEPA and Warzyn) will be synthesized into a single coherent presentation. Therefore, no additional data collection activities will be initiated for this task. The purpose of this effort will be to summarize the existing site information in order to more clearly focus subsequent investigative activities.

- Prepare a detailed work plan.

The SER will be used as the basis to create a detailed work plan. This work plan will describe the investigative, sampling, and analytical procedures that will be employed to further characterize the geologic setting and the nature of the VOC contamination near the Blackhawk Facility. Based on previous studies, it is anticipated that the Work Plan would, among other items,

1. Evaluate water quality changes with time.

In order to establish a record of VOC distribution with time, a program of regular groundwater monitoring will be established. This program will consist of groundwater elevation measurements and water quality sampling. Groundwater elevations will be included so that adequate data can be collected to establish the configuration of the water table and to document seasonal changes. The groundwater elevation measurements will be made quarterly in all monitoring wells and standpipes on and immediately adjacent to the site.

Samples will be collected from a designated group of the monitoring wells and standpipes on a periodic basis. All water samples will analyzed for selected VOCs. Any new monitoring wells installed as part of the investigations could be included in monitoring program.

2. Identify source areas, if any, in the foundry sand disposal area and along Watts Avenue east of the site:

Three water table wells will be placed around the Foundry sand disposal area (Area 1; Drawing 12749-B1) and 3 nests of 2 monitoring wells will be installed along Watts Avenue (Area 2, Drawing 12749-B1), southeast of the site. The exact location of these wells will be specified in the work plan.

3. Analyze the nature of the groundwater flow system to determine the likelihood of the VOCs migrating off-site to the Watts Avenue Area from the source(s) on site:

- Size particle distribution data from soil samples (obtained from proposed monitoring well installations) will be used to characterize uniformity of unconsolidated deposits.
- "Baildown" hydraulic conductivity tests at existing and proposed monitoring wells will be performed to demonstrate relatively isotropic conditions (i.e., similar hydraulic characteristics in the unconsolidated sediments).
- A 2-dimensional numerical flow model will be used to analyze the groundwater flow system around the Blackhawk Facility. The purpose of using this model to evaluate the flow system is to employ a sensitivity analysis to determine the magnitude of stress to the system required to modify groundwater flow directions and rates. Specifically, the impact of private well pumping will be studied. In addition, the groundwater flow model will help identify potential data gaps that need to be filled.

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4. Characterize the groundwater contaminant plume in the foundry sand disposal area:
  - Two additional nests of 2 wells will be installed off-site and south of the Beloit Corporation property. The exact locations of these wells will depend on where legal and physical access can be negotiated. The wells will be installed in an attempt to determine the downgradient extent of the VOC plume which may be emanating from the Beloit Corporation's Blackhawk Facility.

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**Figure 12749-B1**  
**SITE FEATURES MAP**

# LEGEND

+++++ RAILROAD

~~~~~ EDGE OF WOODS

~~~~~ EDGE OF WATER

-X-X- FENCE LINE

----- APPROXIMATE PROPERTY LINE

742.7 SPOT ELEVATION

SW1 STAFF GAGE LOCATION

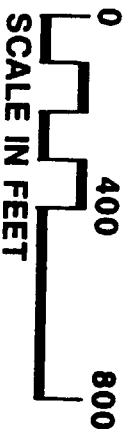
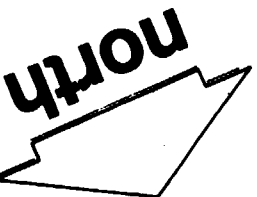
910 PRIVATE WELL LOCATION AND NUMBER

W6(W5) MONITORING WELL LOCATION AND NUMBER  
(PREVIOUS WELL NUMBER IN PARENTHESES)

B1 SOIL BORING LOCATION AND NUMBER

## NOTES

1. MONITORING WELLS W1 THROUGH W17 AND SP1 THROUGH SP12 WERE INSTALLED BY EXPLORATION TECHNOLOGY, INC. DURING OCTOBER 1983 (W1-W3), APRIL 1984 (W4-W11) AND MAY AND JUNE 1987 (W12-W17, SP1-SP12). MONITORING WELL W18 WAS INSTALLED BY ENVIRONMENTAL AND FOUNDATION DRILLING IN JANUARY, 1989.
2. MONITORING WELLS G101 THROUGH G110 AND P1 WERE INSTALLED BY IEPA DURING MAY, 1984 (G101 AND G102), MAY 1986 (G103-G107 AND P1) AND SPRING 1987 (G108-G110).
3. IEPA WELLS ARE LOCATED APPROXIMATELY BASED ON INFORMATION PROVIDED BY THE IEPA AND FIELD OBSERVATION. WELL W18 AND B-SERIES BORINGS ARE LOCATED APPROXIMATELY BASED ON FIELD OBSERVATION.
4. WELLS INSTALLED BY EXPLORATION TECHNOLOGY, INC. ARE LOCATED BASED ON LOCATION SURVEY.
5. PRIVATE WATER SUPPLY WELLS ARE LOCATED BASED ON INFORMATION PROVIDED BY ROCKTON TOWNSHIP, TAX ASSESSOR'S OFFICE.
6. THE FEATURES SHOWN ON BELOIT CORPORATION PROPERTY ARE LOCATED BASED ON FIELD OBSERVATIONS, LOCATION SURVEY BY WARZYN DURING APRIL, 1984 AND INFORMATION PROVIDED BY BELOIT CORPORATION. STREETS IN THE MATTS AVE./BLACKHAWK BLVD. AREA ARE LOCATED BASED ON LOCATION SURVEY PERFORMED BY WARZYN ENGINEERING INC. DURING JULY, 1987.



## SITE FEATURES MAP

GROUNDWATER CONTAMINATION  
INVESTIGATIVE ACTIVITIES  
BELOIT CORPORATION  
ROCKTON, ILLINOIS

Revisions

Date By App'd

**WARZYN**

WARZYN ENGINEERING INC.  
Madison • Milwaukee  
Minneapolis • Chicago  
Detroit

Designed By:

Drawn By:

HLH

Checked By:

NYC

Approved By:

Michael J. R. Cluff

Date:

07-12-90

Reference:

Project Number

12749

B1

WARZYN

